

JOB2074(F)B

19. French Republic

National Institute of Industrial Property

Paris

11. Publication No. 2 641 237
Only use for reproduction orders

21. National registration no.: 89 14493

51. Int Cl: B 60 Q 1/14.

12. Invention Patent Application

22. Date of submission: November 6, 1989

30. Priority: December 30, 1988 no. P 38 44 364.3

43. Date of public release: BOPI "Patents" No. 27 ,
July 6, 1990

60. References to other related national documents:

71. Applicant: Robert Bosch Company
GMBH. DE

72. Inventor: Bernhard Woerner

73. Holder

74. Agent: Herrburger Law Firm

54. "Process of light emission control and arrangement of vehicle headlight in order to apply the process".

57. Process characterized in that the intensity of light, at least in the zone of vision, in which light sources appearing in the opposite direction of the roadway can be measured. The intensity is compared with a threshold value and in instances where it surpasses this value, the light emission of the headlight arrangement and/or the light distribution of the arrangement is increased in order to increase the illumination of the road followed by the vehicle in the direction driven in, and the arrangement of the headlight in order to apply the process, characterized in that light sensor 1 has at least one field 4 receiving the light, upon which at least one light-emitting field of the field of vision, can be reproduced through the action of lens 2.

**InterLingua**

(310)792-3636/Fax(310)792-3642

"Process of light emission control and the arrangement of vehicle headlights in order to apply the process".

The present invention involves a process of light emission control of a vehicle headlight using at least one light sensor which picks up the light emission to the driver coming from the driver's field of vision in the direction of the vehicle's motion.

Such a process is described in document DE OS 21 44 197. In this case, two high beam lights which emit light beams aligned with the path of travel are constructed for a vehicle with the intention of improving the illumination of the path of travel. Two additional headlights are also designed which are used as long-range headlights, but whose light emission is controlled by a light sensor for each lamp in such a way that they can be reduced in different zones of the lane of travel with a light/dark limit extended vertically. The control works in such a way that if the light sensors pick up light coming in the opposite direction, a dimming in the zone of incident light in the field located in front of the vehicle is enabled, so that the driver of the vehicle approaching from the opposite direction is not blinded by the additional headlights. In the other zones, the lane of travel is completely illuminated. When they are working, all four headlights are thus connected. Light emission from the additional headlights is therefore selectively interrupted.

This device has the disadvantage that when complete dimming towards the vehicle approaching from the opposite direction occurs, the driver's lane of motion is insufficiently illuminated and black holes appear in the field of vision of the driver, which could result in dangerous traffic conditions, particularly in pedestrian zones. Also, within these black holes, the light coming from the vehicle approaching from the opposite direction acts in a forceful manner on the driver of the vehicle with the described headlight arrangement and, importantly, could blind him/her, especially due to the differences in light intensity between the black hole and the light coming from the opposite direction.

Regarding the current state of the technique, the process according to the present invention is characterized in that the light intensity is measured at least in the driver's field of vision, in which light sources can appear in the opposite direction of traffic. The measured intensity is compared with a threshold value and where it surpasses this value, the light emission of the headlight arrangement and/or the light distribution of the arrangement is raised in order to increase the illumination of the road that the vehicle is following in the direction of travel.

This process has the advantage that in the case of a light coming in the opposite direction of traffic, the light that illuminates the lane of travel is reinforced so as to reduce the light contrast between the illuminated lane of travel and the light coming in the opposite direction. Thus, the blinding of the driver is also reduced. Through the higher level of illumination, the driver attains the visual acuity that he/she has in the case of normal illumination when another vehicle is not approaching. The advantage of the present invention is that the increase in light emission of the vehicle is controlled automatically when the light intensity or light emission in the driver's field of vision has reached a particular threshold value. This threshold value can be optimized. The introduction of such a threshold value has the advantage that the increase in the light emission of the headlight occurs neither too soon nor too late. If the increase occurs too soon, a premature habituation to the increased illumination follows, so that part of the initial benefit on visual



InterLingua

(310)792-3636/Fax(310)792-3642

acuity is undermined. The effect of a reduction in visual acuity arising from the blinding effect of the light from the approaching vehicle is by contrast not markedly reduced.

The present invention is additionally improved by the following factors:

- a) In the driver's field of vision that is outside of the roadway coming in the opposite direction, where light reflections due to the light emission of the headlight arrangement can affect the driver, the light intensity is picked up by a light sensor and, in the instance where it surpasses a threshold value of light intensity, the light emission of the headlight arrangement is reduced and/or the light distribution is modified in order to reduce the light intensity in the direction emitted towards these zones of vision.
- b) The modification of light distribution is performed in such a way as to reduce the light emission in the direction of the driver's field of vision where the light emission surpassing the threshold value is coming from.
- c) The modification of the light distribution is obtained by modifying the position of the maximum light intensity of the light emission of the headlight arrangement.
- d) The modification of the light distribution is obtained by modifying a light/dark limit of the light emission of the headlight arrangement.
- e) ¹The increase or the modification of the light distribution is carried out for a minimum, pre-determined duration, after the value of the threshold has been crossed.
- f) A headlight can be activated or deactivated in order to modify the light emission or distribution of the headlight arrangement.
- g) In order to carry out the process, the headlight arrangement comprises a light sensor provided with a lens in front of it placed at the front of the vehicle, a lens turned in the direction of the field of vision of the driver of the vehicle, a control device hooked up to the outlet of the light sensor, and a device designed for the modification of the light emission of a headlight arrangement. This arrangement is characterized in that the light sensor has at least one field receiving light, upon which at least one field, emitting light, of the field of vision can be reproduced by means of a lens.
- h) Several light sensors are devised which are associated with different zones of the field of vision or groups of light sensors associated with different zones of the field of vision. These sensors or groups of sensors are hooked up, consecutively, to a circuit for a control device with a comparison device hooked up, on the one hand, with a transmitter of the threshold value relative to the light emission and, on the other hand, to a light sensor or group of light sensors. The output values of the comparator are sent via a signal memory, and in particular via a combinatorial logical circuit to a setting or connecting device with which the light emission of a headlight arrangement is modifiable.
- i) Several light sensors or a light sensor with groups of photosensitive elements are projected, each associated with the different zones of the field of vision, while the outputs of these sensors or of these photosensitive elements are connected to a threshold value comparison device whose outputs are sent to a combinatorial logical circuit, which is connected to a setting or connection device with which the light emission of the headlight is modified.

¹ ILS Note - Paragraph numbering error found in source language text and corrected.



- j) A single light sensor located behind the lens is devised which is equipped with a scanning device with which the different partial zones of vision are reproduced, one after another, on a photosensitive element of the light detector, and where the output of the photosensitive element is connected to a circuit with which the output signals of the photosensitive element are brought, at the scanning frequency of the scanning device, to a handling circuit with a comparison device. The values of output of the comparison device are hooked up by a signal memory to a setting or connection device with which the light emission of the headlight arrangement is modifiable.
- k) The field of vision is represented on several photosensitive elements from one or more light sensors, the outputs of the photosensitive elements being sent to a logical combinatorial circuit, and the maximum value of the output signals of the individual photosensitive elements is measured. This maximum value is then transmitted to a device comparing threshold values, and the output signal controls a setting or connection device which modifies the light emission of the headlight.
- l) The setting or connection device can be connected or disconnected at will. The installation can therefore be switched on or off when needed.
- m) The setting and connection device can be maintained in a connected or disconnected position for a predetermined period using a delay element that can be positioned at the initial connection or an initial connection process, hence frequent connections are advantageously avoided.
- n) The setting or connection device has a servomotor which can place a screen in the light beam emitted by the headlight or modify the position of the light source.
- o) The setting or connection device has a relay with which the intensity going to the light source of the headlight can be connected or disconnected.
- p) The screen has a screen border extending vertically.

This invention is described and explained with reference to preferred application examples, and in reference to the attached figures, which are provided for the purposes of illustration:

-Figure 1 is a representation of the principle of a headlight arrangement intended to carry out the process according to the invention.

-Figure 2 represents the structure of the first design of the light sensor intended to measure the light emission coming from the driver's field of vision of a vehicle equipped with a headlight arrangement, a field receiving light defined by a screen.

-Figure 3 represents a second form of execution of the light sensor, in which the field receiving the light is made of several individual photosensitive elements.

-Figure 4 represents a third example of execution by varying the example of execution from Figure 3.

-Figure 5 represents a fourth form of execution with a single photosensitive element, upon which the field of vision is reproduced by a device that deflects the light into a rapid alternation through a scanning process.

-Figure 6 represents a division of the driver's field of vision into different fields emitting light and which are copied onto a field of a photo sensor receiving the corresponding light.

-Figure 7 is an electrical diagram of the handling circuit of the output signal of the photosensor.

-Figure 8 is a diagram of a variation of the principle pertaining to the control device of the lighting design of a headlight arrangement of a vehicle.



InterLingua

(310)792-3636/Fax(310)792-3642

On an automobile, not represented in detail in the diagram², a light sensor 1, located at the front of the automobile, is oriented in the direction of motion which picks up the driver's field of vision. The light sensor is composed of an image lens or field lens 2 in front of which is intended to be, in the image plan, one or more photosensitive elements 3, which make up a receptor field 4 of the light. Through output 6, these photosensitive elements deliver control signals for a handling circuit 7 whose output 8 is sent to a connection device 9, which controls the light emission or distribution of headlight 11. This headlight can be either an additional headlight which is connected or not connected in support of a low beam headlight, or it can be a modified low-beam headlight or a low-beam headlight from the vehicle's standard equipment which is controlled in such a way that its light emission is performed in the desired manner. The headlight should then increase the light emission, in terms of high beam lights, towards the lane of travel, when a light source approaches in the other direction, or it can reduce the light emission if a light emission that is too high arises in the driver's field of vision. This will be explained in greater detail below. The handling circuit comprises an amplifier 12, which amplifies the signals coming from output 6 and transmits them to a threshold switch 14, which is associated with a threshold value sensor 15. The output of the threshold value switch controls a power transistor 16 or another switching element, with which a power circuit can be controlled. The power transistor 16 preferably controls the connection device 9 which could, for example, comprise a relay 17 controlling the electric supply circuit of a high beam light 11, thereby assuring its connection or disconnection. As a variation using a connection device, a headlight setting device or a device controlling the additional light source located in the headlight or a headlight-dimming device can be controlled.

In order to understand the device described above, the vehicle driver's field of vision is examined according to Figure 6. The field of vision is subdivided into three fields of light emission, the first field 18, the second field 19, and the third field 20.

The first field 18 of light emission includes the lane of travel 22, which was designated above as the path of travel of the vehicle equipped with the headlight arrangement according to the present invention, the shoulder 23 of this lane as well as, up to certain limits, the zone 24 located above the path of travel 22 or its shoulder 23.

The second field 19 of light emission includes the opposite lane 25, its shoulder 26, as well as the zone 27 located above them.

The third field of light emission is located above zones 24 and 27 of the first and second field of light emission and includes the light sources found beyond a certain height or a certain angle above the roadway. In this zone of the third field, light emissions located at a height, light reflections on constructions such as bridges or light reflections on fog blankets can occur.

² IL Note - Words in square brackets are those not stated in the source language text but inferred from the context to clarify the meaning of the sentence.



According to the execution of the light sensor from Figure 1, including lens 2 and the photosensitive element, a representation of the light emission fields on field 4 receiving light is obtained leading to the implementation of this light emission. The light emission of the field is brought to amplifier 12 in the form of a signal, and to switch 14 of an adjustable threshold which attacks the power transistor 16, that is to say the setting circuit 9 after each crossing above or below the threshold value. The threshold value can be adjusted manually or automatically, according to a general level of light, the speed of the vehicle or according to a variety of other parameters influencing visual acuity. The device operates in such a way that when the signal level corresponding to the light coming from the second field 19 surpasses the prescribed threshold value, switch 14 connects the headlight using the connection device 9, with respect to the high beam lights, that is to say, increases the light emission of the vehicle in the direction of the path of travel 22. If, instead the light emission of the first field and/or the third field surpasses the predetermined threshold value, the high beam light or of headlight 11 or of a similar device is disconnected in order to reduce the illumination of the path of travel 22.

This occurs particularly when, through the increase of the light emission and conditions of visibility, the roadway is too brightly illuminated or if, due to an increased light emission when the vehicle reaches reflective surfaces, the driver could be blinded by the excessive light. This occurs particularly in the case of fog formation. In order to utilize the light emissions coming from fields that emit light, the latter are transmitted to light sensor 1 in such a way that, through the lens or fields 4 light receptors, designed in an appropriate way, the fields emitting light can be selectively utilized in the desired manner.

A first example of the execution of the light sensor 1 is represented in Figure 2. A lens 2 is represented schematically in the form of a convergent lens, before which another convergent lens 29 is placed, which in turn brings the light received by lens 2 to a photosensitive element 3. The corresponding light emission field which is located in the driver's field of vision can therefore be delimited using screen 30, which is placed below convergent lens 29, thereby constituting the light receptor field 4. The photosensitive element 3, which is associated with a particular light-emitting field, produces an output signal corresponding to the light emission, this signal being in turn processed in handling circuit 7 to determine crossing above or below the threshold value, this crossing is then being utilized as described above. Such a sensor can be associated with individual light-emitting fields.

For the purposes of perfecting Figure 2, a light sensor can also be executed in such a way that lens 2 represents the light-emitting fields of an arrangement 32 of several photosensitive elements. One can thus plan for individual photosensitive elements 33 laid out in series, one or several of which are associated with one of fields 18, 19, or 20. The output signals of the individual photosensitive elements are utilized individually or as a group by the handling circuit, in the instance where there are several to a field. From this, one can project a single handling circuit for the entire fitting 32 of photosensitive elements, if each of these photosensitive elements 33 associated with the light-emitting fields are utilized one after another in rapid succession. Then headlight 11 is connected according to the result of these measurements.



Figure 4 represents a variation on the execution from Figure 3, also including individual photosensitive elements 33 laid out in a row and whose surfaces give representations of light-emitting fields, whereas convergent lenses 34 are placed before each of these elements. Using these optical lenses 34, which are advantageously cylindrical, the individual photosensitive elements 33 can be precisely associated with light-emitting fields.

In order to reduce the cost of using a large number of photosensitive elements, particularly according to Figure 4, one can (see Figure 5) place only one photosensitive element 36 in position by placing a lens configured in a corresponding manner before it and by placing a corresponding handling circuit behind it.

In Figure 5, as in the other figures as well, a lens 2 is projected which is placed before an oscillating mirror 37. This mirror tilts back-and-forth in a movement of regular amplitude by a wheel 38 and scans through lens 2 the different zones of the vehicle driver's field of vision, and produces a representation on photosensitive element 36 for each one by means of a convergent lens 39 placed before it. Consequently, all parts of the field of vision are successively represented, and in particular the light-emitting fields 18 and 19. The output signal of the photosensitive element is examined in a sequential manner and synchronized with the movement of the oscillating mirror and utilized by means of a threshold value switch, which in turn controls the high beam light or headlight 11 in the aforementioned manner. The handling circuits of the preceding examples of execution can contain a comparator, the threshold value switch 14, working with identical threshold values for all the light-emitting fields, or alternatively with a different threshold value for each field. In the latter case, frequent switching of the turning signal lights can be avoided when unfavorable visual conditions exist. In order to avoid switching in special cases when an increased light emission coming from the first light-emitting field, for example, when reflective surfaces are present along the edge of the path of travel, which could briefly increase the light emission from this field 18³.

At the place of light-emitting fields 4 or at the place corresponding to photosensitive elements 33, a covering for surface 40, which is hatched in Figure 6, is devised. Such increased light emissions can, for example, come from reflective road signs or traffic signals, in this way, the light emissions from this zone do not contribute to the control of the high beam lights. If the light sensor is composed of a large number of photosensitive elements, the photosensitive elements located in this zone can be omitted.

In Figure 7, a handling circuit 107 is illustrated to include sensors 1a, 1b, and 1c, each associated with one of light-emitting fields 18, 19, or 20, and amplifiers 12a, 12b, 12c are placed before the sensors followed by threshold value switches 14a, 14b, 14c. The output from each threshold value switch goes to switches 16a, 16b, and 16c, which are each associated with light sensors 1a, 1b, and 1c, respectively, and which are placed in series in electric supply line 42. The electric supply line 42 leads to connection device 9 by means of which headlight 11 or the high beam light is connected. In addition to switches 16a, 16b, and 16c, an additional switch 43 is foreseen which is controlled by a switching device 44, activated at will by the vehicle's driver.

³ II.S Note - Meaning of source text unclear. Original French is fragmented and extremely difficult to comprehend.



This handling circuit enables measurement of the light emission coming from light-emitting fields, and in the case of crossing above or below the threshold value, it can give priority to this state⁴ in reference to the conditions prevailing in the other light-emitting surfaces by connecting or disconnecting the high beam lights instantaneously. The light sensor 1a is associated, for example, with the first light-emitting field, sensor 1b with the second field 19, and sensor 1c with the third field 20. According to the logic of switching of the connection device 9, conditions may be such that if the threshold values associated with the first and third light-emitting fields 18 and 20 are not crossed, the corresponding switches 16b and 16c are closed so that when switch 43 is also closed, the arrangement of the connection is engaged in such a way that the high beam light 11 is connected. If the threshold value associated with the second field 19 is crossed below, switch 16b opens and the relay of the connection device 9 falls again and the high beam light is again disconnected. The same process occurs if the threshold value associated with the first field 18 or the third field 20 is crossed. Switches 16a and 16c then open and the electric circuit is also interrupted. By activating connection device 44, the high beam light can also be disconnected by means of switch 43.

To complement this form of execution, and in order to eliminate frequent switching during the crossing of predetermined threshold values, an additional device with an intensity recognition sensor 46 is devised, for example, made of an induction spool, which recognizes an intensity feeding into the electric supply line 16 and this sensor is associated with a delay switch 47 to control it. The delay switch is located in electric line 48 placed in parallel on switches 16a to 16c and 43, and leads from a supply of current or tension, to which the rest of the installation 49 of the headlight is connected. As soon as device 46 detects a current, line 48 is linked by the delay switch to connection device 9, so that during the delay period of the switch, connection device 9 remains engaged, regardless of the position of switches 16a to 16c. Following that, at the end of the delay period, electric line 48 leading from connection device 9 is interrupted again and is then controlled by the said switches according to their positions.

According to a variation of the execution, a handling circuit can be devised in such a way that, for the configuration of sensors according to Figure 3 or 4, individual photosensitive elements 33 are scanned according to a rapid order of succession and at a predetermined frequency, and compared to a predetermined threshold value or even one that can be alternately switched. The result of each measurement is placed in memory which is then queried to find the highest value to determine the switching of the high beam lights. The utilization is therefore performed using a multiplex technique. According to another variation, the individual photosensitive elements according to Figures 3 and 4 can be queried by means of an analogue grid to find the highest values, each maximum value in turn determining the switching of the connection device in regards to the connection or disconnection of the high beam light.

Such a device is represented schematically in Figure 8, with a lens 2, an arrangement 32 of several photosensitive elements 33 and a threshold value device 50, by means of which a maximum value 51 surpassing the threshold value 52 is picked up and as a function of which the connection device 9 is engaged. A servomotor 54 may now be connected by means of connection device 9, by which the screen 55 is adjusted and places itself in the path of beam 54 of the high

⁴ IL Note - Meaning of source text unclear



beam light 57. The lamp of the high beam light has a light source 58 which is always connected, along with the rest of the installation of lamps and a reflector 59, to a downstream objective lens 60. The edge 61 of screen 55 is positioned to correspond to the lane of travel or to the driver's field of vision. Regarding this screen, it is a screen producing a vertical light/dark limit, in such a way that only the directional lane of movement 22 is lit each time. In principle, the light distribution of the headlight can be modified, and in particular the modification can be done such that in direction 62, from which a signal surpassing a predetermined threshold value is taken, abundant light would be emitted and in the other zones no light would be emitted. A variation is represented in Figure 8 in which, instead of screen 15, light source 58 is displaced using servomotor 63 in such a way that the position of the highest light intensity 64 of the light emitted by the headlight installation in the directional path of travel 22, is limited to the field of vision 65.

By means of the preceding measurements, when a high light intensity in the opposite path of travel is detected, the intensity of illumination on the path of travel 22 is advantageously increased in the zone of the first light-emitting field 18 in order to improve the visual acuity of the vehicle's driver, or to reduce the illumination contrast between the light coming from the front and the illuminated lane of travel. If, however, the light emission coming from the first light-emitting field is too high, which could be caused by reflective surfaces, by reflective coverings of the reflective path of travel, or by atmospheric conditions such as fog blankets, the high beam is disengaged. In such a case, an additional field can also be devised, the third field 20, by means of which the turning signal light is controlled in the same fashion.

**InterLingua**

(310)792-3636/Fax(310)792-3642

CLAIMS

1) Process for a light emission control of a vehicle headlight arrangement which has a headlight (11) whose light emission is controlled by means of at least one light sensor (1) which picks up the light emission which acts on the vehicle's driver coming from the field of vision (65, 18, 19, 20) of the driver in the direction of the vehicle's motion, a process characterized in that light intensity is measured at least in the zone of the field of vision, in which light sources can appear in the direction opposite to that of the lane of travel, a threshold value is compared and in the case where this value is surpassed, the light emission of the headlight arrangement and/or the light distribution of this arrangement is altered in order to increase the illumination of the road followed by the vehicle in the direction of travel.

2) Process in particular according to Claim 1, characterized in that light intensity is determined using a light sensor, in the zone of the field of vision outside the path of travel in the opposite direction, a zone in which light reflections due to light emissions from the headlight arrangement can occur and act upon the driver and, in the case of crossing the threshold value for this light intensity, the light emission from the headlight arrangement is reduced and/or the light distribution is modified in order to reduce the light intensity emitted in the direction of these zones.

3) Process according to Claims 1 and 2, characterized in that the modification of the light distribution is accomplished in such a way as to reduce the light emission in the direction of the zone of the field of vision from which light emission surpasses the threshold value.

4) Process according to any one of Claims 1 to 3, characterized in that the modification of the light distribution is obtained by modification of the position of the maximum light intensity of the headlight arrangement.

5) Process according to any one of Claims 1 to 3, characterized in that the modification of the light distribution is obtained by means of a modification of the position of a light/dark limit of the light emission of the headlight arrangement.

6) Process according to any one of the preceding claims, characterized in that the increase or modification of the light distribution during a minimum predetermined duration is carried out after the threshold value is surpassed.

7) Process according to any of the preceding claims, characterized in that a headlight is turned on or off in order to modify light emission or the light distribution of the headlight arrangement.



InterLingua
(310)792-3636/Fax(310)792-3642

8) Headlight arrangement for the execution of the process in accordance with any of the preceding claims, bearing a light sensor (1), equipped with a lens (2) placed ahead of it, laid out on the front of the vehicle, lens facing the direction of the field of vision of the vehicle's driver, a control device hooked up to the output (6) of the light sensor (1) and a device intended to modify the light emission of a headlight arrangement, characterized in that the light sensor (1) presents at least one field (4) receiving light upon which at least one field (18,19,20) emitting light, of the field of vision can be reproduced by means of the lens (2).

9) Arrangement according to Claim 8, characterized in that several light sensors (1, 1a, 1b, 1c) are devised which are associated with different zones of the field of vision or groups of light sensors (32) which are associated with different zones of the field of vision. These sensors or groups of sensors being connected, one after another, to a handling circuit (7) of a control device bearing a comparison device (14) connected on the one hand to a threshold value to relative light emission value transmitter (15), and on the other to a light sensor (1, 1a, 1b, and 1c) or to a group of light sensors (32), the output values of the comparison device being brought by means of a signal memory and in particular by a combinatorial logical circuit, to a setting or connection device (9, 54, 63) with which light emission from a headlight arrangement headlight is modifiable.

10) Headlight arrangement according to Claim 8, characterized in that several light sensors are foreseen or one light sensor with groups of photosensitive elements (32) associated with different zones of the field of vision whereas the outputs of these sensors or photosensitive elements are connected to a threshold value comparison device (14, 50) whose outputs are connected to a combinatorial logical circuit* (16a, 16b, 16c) which is connected to a setting or connection device (9), with which the light emission of the headlight is modified.

11) Headlight arrangement according to Claim 8, characterized in that a single light sensor is foreseen, placed before the lens (2) which is equipped with a scanning device (37,38) with which the different partial zones of the field of vision are reproduced one after another on a photosensitive element (36) of the light sensor, and characterized in that the output of the photosensitive element is sent to a circuit with which the output signals of the photosensitive element are brought, at the scanning frequency of the scanning device, to a handling circuit with a comparator connected by a signal memory, in particular by a combinatorial logical circuit, to a setting or connection device with which the light emission of the headlight is modifiable.

12) Headlight arrangement according to Claim 8, characterized in that the field of vision is represented on several photosensitive elements from one or more light sensors, the outputs of the photosensitive elements being at the same time connected to a combinatorial logical circuit by means of which a maximum value of output signals from the photosensitive elements can be measured, this maximum value being brought to a threshold value comparator, whose output signal controls a setting or connection device with which the light emission of the headlight is modifiable.



InterLingua

(310)792-3636/Fax(310)792-3642

13) Headlight arrangement according to any of Claims 8 to 11, characterized in that the setting or connection device (9) can be kept in a connected or disconnected position for a predetermined time by means of a delay element (47) which can be set at the initial connection or at the initial connection process.

14) Headlight arrangement according to any of Claims 8 to 12, characterized in that the setting and connection device (9) can be kept connected or disconnected for a predetermined amount of time by means of a delay element (47) which can be set at the initial connection or at the initial connection process.

15) Headlight arrangement according to Claims 8 to 13, characterized in that the setting or connection device bears a servomotor (54) with which a screen (55) can be placed in the light beam emitted by the headlight or alternatively with which the position of the light source is modifiable.

16) Headlight arrangement according to any one of Claims 8 to 13, characterized in that the setting or connection device bears a relay (17) with which the intensity of the current, going to the light source (58) of the headlight can be connected or disconnected.

17) Headlight arrangement according to Claim 14, characterized in that the screen (55) has a screen border (61) extending vertically.



InterLingua

(310)792-3636/Fax(310)792-3642

JOB 2074(F)B

CERTIFICATION

I, Janet Stewart, hereby declare that I am a professional translator experienced in translating patents and technical publications, and that the foregoing is a true and accurate translation of "Procédé de commande de l'émission lumineuse et agencement de projecteur de véhicule pour la mise en œuvre du procédé.", to the best of my knowledge.

Janet Stewart
JANET STEWART